



Field Tester for ART SS Sensor



Parts list

Standard parts quantity part number

Field Tester (kit)	1	AERT065
Consisting of		
Field Tester (Monitor)	1	9ART062
12V Power Adapter Cable	1	AGRT068
Sensor Loop Cable - 2 foot	2	9ARTX02
Manual	1	MNRT066

Optional parts

Known-good sensors

Seed Rate sensor - 1 inch or 25 mm (inside diameter) AGSS25

or

Seed Rate sensor - 1¼ inch or 32 mm (inside diameter) AGSS32

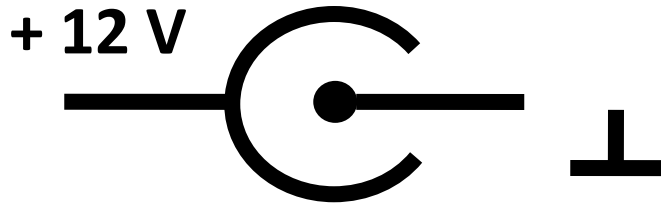
Intended usage

The ART Sensor Field Tester is intended for conclusive diagnostics of Agtron ART Sensors (part numbers starting AGSS) by service personnel. Sensor diagnosed as good by the Field Tester is deemed good. Sensor diagnosed as faulty is deemed faulty and can be replaced within the warranty period.

Operation

The Field Tester is powered by 12 V DC. Stabilized switched power supply is recommended in a bench situation; car lighter socket in the service vehicle or on the tractor or an extra 12 V battery can be used in field conditions. The power supply unit is not supplied by Agtron due to the variety of situations.

The Field Tester DC power connector is a common 5 mm jack with 2.1 mm centre, **centre ground**.



Connecting the tested sensor directly to the connectors of the Field Tester is NOT recommended. Instead, use the two extension cables provided, one on each end. Repeated connections in field conditions can easily lead to damage of the connectors; it's usually better to replace an extension cable than the whole Field Tester.

For reliable diagnostics please make sure the sensor connectors are not damaged (no missing or bent pins), all connectors are clean (no sand, stones, or mud), and all connections are properly inserted.

For sensor diagnostics, connect **one** sensor at a time.

For cable diagnostics, connect any number or lengths of cables.

For reliable diagnostics we recommend carrying one known-good sensor at all times.

When not in use, we recommend protecting the connectors by keeping them connected at all times.

After connecting the power, push the  power button to switch Field Tester on.

Upon power up the Field Tester shows a welcome screen with version and serial number

```
SS SENSOR TEST
SW v1.4      nnnnnn
```

and automatically starts testing. Detection time can be few seconds.

If **no sensor** is connected, which can be caused by poor connection or faulty cable, or the connected sensor is electrically without function, the screen reads

```
NO SENSOR
SCANNING LOOP
```

this message is periodically refreshed, until an electrically-live sensor is detected. Upon sensor detection, the screen reads

```
CONNECTION FOUND
TEST IN PROGRESS
```

and the test procedure is run. Testing time is about twenty seconds. For a good sensor, the following message is shown

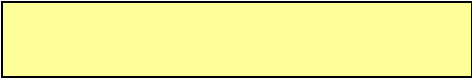
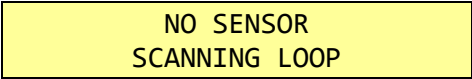
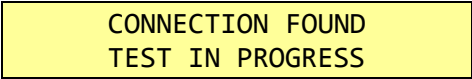
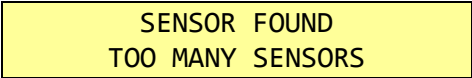
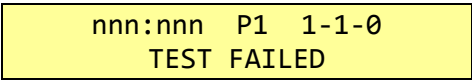
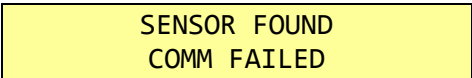
```
nnn:nnn P1 1-1-0
TEST PASSED
```

The nnn:nnn numbers are ATD values, also called "eye strength".

The second line saying **TEST PASSED** is what you wanted to see!

For a faulty sensor, there are several possibilities depending on the actual fault. See the following table for details.

Screens

Screen reads	...and it means
	<p>Field Tester is switched off – push the power button!</p> <p>Field Tester is without power – check power!</p> <p>Direct sun light affects readability of screen – protect the screen.</p> <p>Field Tester is faulty.</p>
	<p>No sensor is connected.</p> <p>Connected sensor is electrically without function (faulty sensor).</p> <p>Connected cable is faulty.</p> <p>Field Tester is faulty.</p> <p>In every case, known-good sensor can be used to verify function.</p>
	<p>Test in progress, wait.</p>
	<p>More than one sensor connected in the loop. Connect just one sensor at a time.</p>
	<p>Connected sensor is unable to calibrate the optical detection system (faulty sensor).</p>
	<p>Connected sensor has faulty communication circuit or cable (faulty sensor).</p>

Screens

Screen reads	...and it means
<p data-bbox="253 247 716 373">PWR 0 SHLD 0+0 LOOP POWER FAIL</p>	<p data-bbox="797 247 1386 331">Self test loop power fail (faulty sensor). Connected sensor has a broken or cut wire</p>
<p data-bbox="253 415 716 499">PWR 1 SHLD 0+0 SELF TEST PASSED</p>	<p data-bbox="797 415 1386 625">Self test passed Field Tester ends connected together, cables tested OK. Field Tester ends connected with an extension cable, cable tested OK.</p>
<p data-bbox="253 716 716 800">LP PWR OVERLOAD TEST FAILED</p>	<p data-bbox="797 716 1386 747">Loop current overload (faulty sensor).</p>
<p data-bbox="253 846 716 930">CYCLE SYS POWER TEST FAILED</p>	<p data-bbox="797 846 1386 877">Slave micro not responding (faulty sensor).</p>
<p data-bbox="253 978 716 1052">nnn:nnn P1 1-1-0 TEST PASSED</p>	<p data-bbox="797 978 1386 1010">Connected sensor is a good sensor!</p>